

## Stack inspection of the Magnan Viaduct by Drone

### A8 AutoRoute



**Client:**

ESCOTA

**Project Manager :**

DIADES

**Contractor:**

**Years :**

Studies : March 2012

**Principal features:**

Variable height single cell Box Girder Bridge  
Length : 496 meters  
Floor width: 11 meters (south) and 9 metres (north)

### Background

Le Magnan viaduct is a prestressed concrete box girder bridge carrying the A8 highway in its northern Nice bypass section. It crosses the valley of Magnan and the Madeleine. It is 486 meters long and its H-shaped cells have a maximum height of 90 meters. Built by successive cantilever method, it actually consists of two parallel viaducts separated by about ten meters. The south viaduct was completed in 1975 and commissioned in December 1976. The traffic initially operated then in a two-way manner on this single deck. The second viaduct, to the north, was finished in 1983 when traffic was modified to one way dual carriageway on each deck.

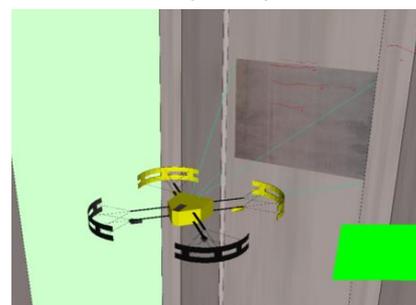
Given their very large operating constraints, Esterel Highways, Côte d'Azur, Provence, Alpes wanted to make a detailed inspection of overpass stacks of Magnan North and South by drone.

### DIADES' task

Diadès conducted a detailed inspection mission of the structure, using a drone to obtain a precise mapping of faults and disorders with a precision of 1/10th of a millimeter. This inspection is required under the preventive monitoring of the structure.

We established :

- The description and location of faults with their degree of importance, for each structural element,
- An analysis of the cause of the disorders with feedback and recommendations for maintenance, monitoring, repairs or



### Specifics of the Mission



The defects found led to a three-dimensional projection of the mapping components of the structures' model, to visualize the extent of the structural defects.

**Diadès**

ZAC Le Griffon  
7, Chemin des Gorges de Cabriès  
13127 VITROLLES  
Tél : 04.42.12.41.30  
Fax : 04.42.12.41.39  
Mail : diades.aix@diades.fr  
www.diades.fr